

PATENT CLAIMS

1. Composition comprising at least one non-crosslinkable organic medium (A) which has a viscosity of less than
5 30,000 mPas at a temperature of 120 °C and at least one microgel (B).
2. Composition according to claim 1, wherein the non-crosslinkable organic medium (A) has a viscosity of less
10 than 1,000 mPas at a temperature of 120 °C.
3. Composition according to claim 1, wherein the non-crosslinkable organic medium (A) has a viscosity of less
15 than 200 mPas at a temperature of 120 °C.
4. Composition according to claims 1 to 3, characterized in that the primary particles of the microgel (B) have an approximately spherical geometry.
- 20 5. Composition according to claims 1 or 4, characterized in that the deviation of the diameters of an individual primary particle of the microgel (B), defined as
$$[(d1 - d2) / d2] \times 100,$$

25 wherein d1 and d2 are any two desired diameters of the primary particle and d1 is > d2, is less than 250 %.
6. Composition according to claim 5, wherein the said
30 deviation is less than 50 %.

7. Composition according to one of claims 1 to 6,
characterized in that the primary particles of the microgel
(B) have an average particle size of 5 to 500 nm.
- 5 8. Composition according to one of claims 1 to 6,
characterized in that the primary particles of the microgel
(B) have an average particle size of less than 99 nm.
9. Composition according to one of claims 1 to 8,
10 characterized in that the microgels (B) have contents which
are insoluble in toluene at 23 °C of at least about 70 wt.%.- 10. Composition according to one of claims 1 to 9,
characterized in that the microgels (B) have a swelling
15 index in toluene at 23 °C of less than about 80.- 11. Composition according to one of claims 1 to 10,
characterized in that the microgels (B) have glass transition
temperatures of -100 °C to +120 °C.
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12. Composition according to one of claims 1 to 11,
characterized in that the microgel (B) is a crosslinked
microgel which is not crosslinked by high-energy radiation.- 13. Composition according to one of claims 1 to 12,
25 characterized in that the microgels (B) have a width of the
glass transition range of greater than about 5 °C.- 14. Composition according to one of claims 1 to 13,
30 characterized in that the microgels (B) are obtainable by
emulsion polymerization.

15. Composition according to one of claims 1 to 14,
characterized in that the microgel (B) is based on rubber.
- 5 16. Composition according to one of claims 1 to 15,
characterized in that the microgel (B) is based on
homopolymers or random copolymers.
- 10 17. Composition according to one of claims 1 to 16,
characterized in that the microgel (B) is modified by
functional groups which are reactive towards C=C double
bonds.
- 15 18. Composition according to one of claims 1 to 17, wherein
the non-crosslinkable medium (A) is at least one
compound which is chosen from the group which consists
of solvents, saturated or aromatic hydrocarbons, polyether-
oils, naturally occurring and synthetic ester oils, polyether-
ester oils, phosphoric acid esters, silicon-containing oils,
halohydrocarbons and liquid renewable raw materials.
- 20 19. Composition according to one of claims 1 to 18, which
comprises 0.1 to 90 wt.% of the microgel (B), based on the
total amount of the composition.
- 25 20. Composition according to one of claims 1 to 19,
characterized in that it comprises 10 to 99.9 wt.% of the
non-crosslinkable organic medium (A).
- 30 21. Composition according to one of claims 1 to 20,
characterized in that it additionally comprises fillers and/or
additives.

22. Composition according to one of claims 1 to 21,
characterized in that it has been prepared by mixing the
non-crosslinkable medium (A) and the microgel (B) by
means of a homogenizer, a bead mill (stirred ball mill), a
triple-roll mill, a single- or multiple-screw extruder, a
kneader, an Ultra-Turrax apparatus and/or a dissolver.
23. Composition according to claim 22, characterized in that it
has been prepared by means of a homogenizer, a bead
mill (stirred ball mill), a triple-roll mill or a dissolver.
24. Composition according to one of claims 1 to 23,
characterized in that it has a viscosity of 2 mPas up to
50,000,000 mPas at a speed of 5 s^{-1} , determined with a
cone-plate measuring system in accordance with DIN
53018 at 20 °C.
25. Composition according to one of claims 1 to 24,
characterized in that the microgel (B) has a swelling index
in toluene at 23 °C of 1 to 15.
26. Composition according to one of claims 1 to 25,
characterized in that the microgels (B) have contents which
are insoluble in toluene at 23 °C of at least 95 wt.%.
27. Composition according to one of claims 1 to 26,
characterized in that the microgel is not modified with
hydroxyl groups.
28. Composition according to one of claims 1 to 27,
characterized in that the microgel is not modified.

29. Use of the composition according to one of claims 1 to 28 for incorporation into thermoplastics, rubbers or thermoplastic elastomers.
- 5 30. Use of the composition according to one of claims 1 to 28 for the preparation of microgel-containing polymers.
31. Use according to claim 30 for the preparation of microgel-containing rubbers.
- 10 32. Use according to claim 30 for the preparation of microgel-containing thermoplastic elastomers.
- 15 33. Use of the compositions according to one of claims 1 to 28 for the preparation of lubricants, shaped articles or coatings.
- 20 34. Use of the composition according to claim 33 for the preparation of lubricating greases or modified lubricating oils.
- 25 35. Use of the compositions according to one of claims 1 to 28 as a additive for plastics, rubbers, coating compositions or lubricants.
- 30 36. Use of microgels as a rheological additive, in particular as a thickener or thixotropic agent, in non-crosslinkable organic media which have a viscosity of less than 30,000 mPas at a temperature of 120 °C.

37. Plastics, rubbers, thermoplastic elastomers, coating compositions or lubricants comprising the compositions according to one of claims 1 to 28.
- 5 38. Process for the preparation of the composition according to one of claims 1 to 28, characterized in that components (A) and (B) are subjected together to the treatment with a homogenizer, a bead mill, a triple-roll mill, a single- or multiple-screw extruder, a kneader and/or a dissolver.
- 10 39. Process for the preparation of the composition according to one of claims 1 to 28, characterized in that components (A) and (B) are subjected together to the treatment with a homogenizer, a bead mill, a triple-roll mill and/or a
- 15 dissolver.